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In re Application of)
ARNOLD E. GOLDMAN, K. JUERGEN FLAMM,)
JOHN G. MARK & IKE SONG)
Serial No. 09/917,578) Art Unit 2873
Filed: 28 July 2001)
For: SLEEVE FOR PIG-TAILING OPTICAL FIBER) Examiner Omar Z. Hindi

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(Per Response to Office Action dated 28 February 2002)

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Sub B1

1. A vehicle for enabling attachment of an optic fiber to a multi-integrated optic chip in optical communication therewith, and for maintaining alignment of the fiber at its end adjacent the chip, comprising:

a sleeve having a symmetrically-shaped cavity bounded by termini which respectively interface with the chip and the fiber; and

an adhesive disposed within the cavity and symmetrically bonding the fiber to the chip.

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2. A vehicle for enabling attachment of an optic fiber to a multi-integrated optic chip in optical communication therewith, and for maintaining alignment of the fiber at its end adjacent the chip, comprising:

a sleeve which has a symmetrically-shaped cavity bounded by termini that respectively interface with the chip and the fiber, and in which

said cavity has an axis and is internally bounded by a wall which is substantially centered on the axis and which extends from said chip-interfacing terminus to said fiber-interfacing terminus,

said termini are centered on the axis, and

a line, lying within any plane intersecting the axis at right angles thereto and terminating in said cavity wall, is bisected into two equal segments; and

an adhesive disposed within the cavity and symmetrically bonding the fiber to the chip.

3. A vehicle for enabling attachment of an optic fiber to a multi-integrated optic chip in optical communication therewith, and for maintaining alignment of the fiber at its end adjacent the chip, comprising:

a sleeve which has a symmetrically-shaped cavity bounded by termini that respectively interface with the chip and the fiber, and which is configured to fit onto the chip and is disposed to accept the fiber; and

an adhesive disposed within the cavity and symmetrically bonding the fiber to the chip.

4. A vehicle according to claim 3 wherein:

said cavity has an axis and is internally bounded by a wall which is substantially centered on the axis and which extends from said chip-fitting terminus to said fiber-accepting terminus;

said termini are centered on the axis; and

a line lying within any plane intersecting the axis at right angles thereto and terminating in said cavity wall is bisected into two equal segments.

5. A vehicle according to claim 4 wherein said cavity wall slopes from said chip-fitting terminus to said fiber-accepting terminus.

6. A vehicle according to claim 4 in which said sleeve so controls said adhesive as to provide and preserve a symmetrical bonding of the fiber with respect to the chip over gravitational and wicking effects.

7. A vehicle according to claim 6 in which said cavity wall is shaped as a truncated right circular cone.

8. A vehicle according to claim 6 in which said cavity wall is shaped as a truncated pyramid.

9. A vehicle according to claim 4 in which said sleeve is temporarily attached to said adhesive and the chip.

10. A vehicle according to claim 4 in which said sleeve is permanently attached to said adhesive and the chip.

11. A method for attaching an optic fiber to an optic chip and for maintaining alignment of the fiber at its end adjacent the chip, comprising the steps of:

positioning a sleeve having a symmetrically shaped cavity on the chip;

placing an adhesive into the sleeve cavity;

inserting the fiber into the cavity;

securing the fiber to the chip; and

curing the adhesive.

12. A method according to claim 11 further comprising the step of aligning the fiber within the cavity and positioning the fiber end adjacent the chip.

13. A method according to claim 11 further comprising the step of removing the sleeve from the chip after the adhesive has cured.

14. A method according to claim 11 further comprising the step of leaving the sleeve securely on the chip after the adhesive has cured.

15. A method according to claim 11 further comprising the step of providing the sleeve cavity with a truncated pyramid configuration.

16. A method according to claim 11 further comprising the step of providing the sleeve cavity with a truncated right circular cone configuration.

17. A method for attaching an optic fiber to an optic chip and for maintaining alignment of the fiber at its end adjacent the chip, comprising the steps of:

utilizing a sleeve having a symmetrically shaped cavity;

placing an adhesive into the sleeve cavity;

positioning the sleeve onto the chip;

inserting the fiber into the cavity;

aligning the fiber within the cavity and positioning the fiber end adjacent the chip;

securing the fiber to the chip; and

curing the adhesive.

18. A method according to claim 17 further comprising the step of removing the sleeve from the chip after the adhesive has cured.

19. A method according to claim 17 further comprising the step of leaving the sleeve securely on the chip after the adhesive has cured.

20. A method according to claim 17 further comprising the step of providing the sleeve cavity with a truncated pyramid configuration.

21. A method according to claim 17 further comprising the step of providing the sleeve cavity with a truncated right circular cone configuration.